



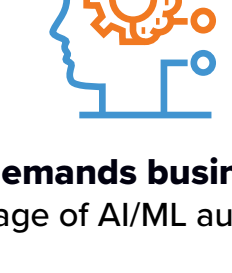
Enabling Business Responsiveness with Intelligent Continuous Testing

For digital innovation, organizations must “shift left” and test software rapidly and continuously across a complex, plethora of environments to keep pace with high-velocity DevOps pipelines. “Smarter” testing and quality strategies leveraging artificial intelligence can help increase efficiency, resilience, and business optimization.

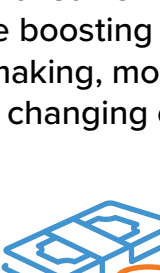
Respond to Breadth of Coverage Demanded for High-Quality Applications



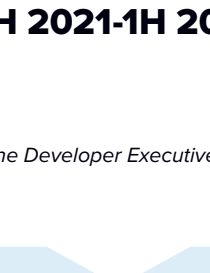
Rapid digital transformation (DX) for adaptive businesses demands upfront velocity testing across areas – e.g., functionality, performance, security, customer experience



Testing imperatives exist for safe, relevant, high-quality, adaptive apps to avoid reputational and business costs of poorly performing, broken, porous, irrelevant, and ugly software (produced at DevOps speeds)



Complexity demands business alignment, automation, and leverage of AI/ML augmentation as it evolves



AI/analytics is a top area for IT-focused spending; DX and hybrid work are boosting AI usage via automation for improved decision-making, modeling, and monitoring in dramatically changing environments



Data optimization and software are core areas investment: **Over 40% of full-time** developers focused on AI/ML development **2H 2021-1H 2022**

Source: IDC PaasView and the Developer Executive Summary, June 2022, n=2500

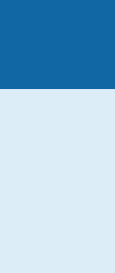
Establish Performance Engineering Strategies for Governance Across the Software Portfolio



Multiplicity of systems and technologies across myriad platforms for multi-modal deployment pose compound challenges that mandate automation



Sustainable software-based innovation demands that companies deliver value faster than technical debt is accrued



Businesses must respond to changes to their ERP platforms which constitute their “central nervous system” along with related systems of record (SOR) dependencies



SAP-mandated shift to S/4HANA by 2027 compels timely, comprehensive quality strategy to successfully migrate while also providing business continuity



Most organizations seek tools that support mainframe and modern applications as a top development challenge, followed by siloed teams, limited reusability and need for agility



Most organizations are interested in being a digital solution hub or part of a community that collaborates and share digital solutions and are increasingly deploying those digital solutions to off-premises cloud infrastructure

Sources: IDC, U.S. Accelerated Application Delivery Survey, January 2022, n=200; and IDC PaasView and the Developer Executive Summary, June 2022, n=2,500

Leverage AI for Agile Execution to Extend Reach, Increase Efficiency, Cut Costs, and Improve Quality



Scale automation with AI technology to keep pace with pipeline, data and business dynamism and complexity



Increase coverage rates and efficiency via computer vision and machine learning (ML) for object identification and location to mitigate maintenance efforts — testing benefits from AI



Enable efficient script management and metrics to help address skills barrier with natural language processing



AI models enable self-learning, evolving over time as additional data is gathered to augment capabilities and increase efficiency



IDC sees use of AI/ML to address core areas: app dev pipeline optimization, delivery bottlenecks, new app development outcomes, accelerating testing, exploring AI cognitive ecosystems



60% of developers said they had adopted AIOps practices and another **20% plan to adopt AIOps in the next 12 months**

Sources: IDC, PaasView and the Developer, May 2021 n=2500; Accelerated Application Delivery Survey, January 2022, n=200

Benefits from Comprehensive Testing with Analytics to Adapt Dynamically



Increasing demand for efficiency drives functional testing (FT) with emerging AI usage and analytics



Performance engineering (PE) and performance test (PT) enable rapid scaling with shift to Dx and remote work



Management of tests, test environments and test data vital for visibility, coverage, governance and compliance



Resilient app design and security vulnerability analysis and testing help protect businesses for DevSecOps



RPA for operations automation and quality coordination help automate mundane, error-prone tasks



Manual testing efforts and lack of automation was a leading challenge cited by respondents; a majority of organizations are adopting advanced software quality strategies such as continuous testing, AI-driven test automation, model-based and scriptless testing, behavior-driven-development, communities of practice

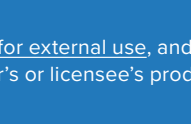
Source: IDC, U.S. Accelerated Application Delivery Survey, January 2022, n=200

Create Intelligent Overarching Test Strategy with Automation for Dynamic Deployment

AI and advanced analytics adoption can reduce maintenance cost, increase test coverage and deployment speed, extend testing reach to non-technical business users, and enable visible, actionable metrics



Unite performance, functional and non-functional testing across complex ecosystem of apps and technologies



Remain relevant in today's economy through adaptive, high-quality execution with progressive enhancement (PE)



Incorporate organizational and agile process and with appropriate quality automation strategies for success

Message from the Sponsor

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